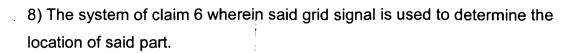
🔪 Į claim:

1) A method for controlling placement of a first part on a second part comprising, placing a printed image containing a digital watermark on at least one of said parts,

capturing a digital image of said printed image, reading a grid signal contained in said digital watermark, and determining the angular rotation of said part from said watermark grid signal.

- 2) The method of claim 1 including the step of reading other payload data from said watermark.
- 3) The method of claim 1 wherein said grid signal is used to determine the location of said part.
- 4) The method recited in claim 1 wherein said first part is an electronic component.
- 5) The method recited in claim 1 wherein said second part is a printed circuit board.
- 6) A system for controlling a pick and placement machine which places a first part on a second part and wherein at least one of said parts includes a printed image containing a watermark means for reading data from said digital watermark from said part, and means for determining the orientation of said part from the data read from said watermark.
- 7) The system of claim 6 including means for reading other payload data from said watermark.



- 9) The system of claim 6 wherein said grid signal is used to determine the distance of said part from said means for reading.
- 10) The system of claim 6 wherein said first part is an electronic component.
- 11) The system of claim 6 wherein said second part is a printed circuit board.
- 12) A robot for handling items, said robot including,
- a camera for acquiring an electronic image of a printed image containing a watermark
- a computer including a program from reading a digital watermark in an electronic image acquired by said camera,
- a controller for controlling said robot in response to the data acquired from said digital watermark.
- 13) The robot recited in claim 12 including means for reading a grid signal from said digital watermark.
- 14) The robot recited in claim 13 wherein said printed image is on an item to be handled by said robot.
- 15) The robot recited in claim 14 including means for determining the distance from said camera to said item from said grid signal.
- 16) The robot recited in claim 14 including means for determining the orientation of said item from said grid signal.

